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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,614	10/20/2003	Kunio Harada	HIRA.0125	2602
38327 7590 02/12/2007 REED SMITH LLP 3110 FAIRVIEW PARK DRIVE, SUITE 1400 FALLS CHURCH, VA 22042			EXAMINER VATHYAM, SUREKHA	
			ART UNIT 1753	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/687,614

Applicant(s)

HARADA ET AL.

Examiner

Surekha Vathyam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/944,410.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/20/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 3, line 22, the word "Drugs" should be replaced with - -Reagents - -.

Page 5, line 4, the word "drug" should be replaced with - -reagent - -.

Page 16, line 17, "o radical" should be replaced with - -O radical - -.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 3, (lines 1 – 2) recites, "wherein the predetermined length is in a range of 0.1 mm to 10 mm". The specification discloses this length range only in connection with a distance from the surface of the capillary tube and the reaction chamber (page 18, lines 3 – 7). The length of the window is disclosed as being in the range of 1 to 20 mm (sentence connecting pages 1 and 2 and sentence connecting pages 5 and 6).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Zare et al. (US 4,675,300).

Regarding claim 1, Zare ('300) discloses an electrophoresis apparatus (see fig. 3) comprising: a plurality of capillaries (column 7, lines 5 – 7); a voltage applier (36) applying voltage between both ends of the capillaries (column 3, lines 44 – 47); a laser light source (46) irradiating a laser (column 3, line 64 – column 4, line 3); and a fluorescent detector detecting a fluorescence emitted from inside of the capillaries (column 4, lines 5 – 17), wherein each of capillaries comprising a first region where it is coated with a polymer, a second region where a surface of the capillary being exposed for a predetermined length in the longitudinal direction (column 3, lines 32 – 37 and fig. 4), and a third region provided between the first and second regions, covered with a tapered polymer coating whose thickness becomes thinner from the first region to the second region, wherein a slope of the surface of the coating of the third region makes an angle of 70 degrees or less with the longitudinal direction of the capillary (see fig. 4).

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Regarding claim 2, Zare ('300) discloses the electrophoresis apparatus wherein a material of the tapered polymer coating is polyimide (column 3, lines 34 – 37).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of

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35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zare et al. (US 4,675,300) in view of Chu et al. (US 6,001,232).

Zare ('300) discloses the electrophoresis apparatus as discussed with regards to claim 1 above. Regarding claim 3, Zare ('300) does not explicitly disclose the range of the predetermined length.

Chu ('232) teaches an electrophoresis apparatus with a capillary being exposed for a predetermined length in the longitudinal direction in a range of 0.1 mm to 10 mm (column 8, lines 54 – 57).

It would have been obvious to one of ordinary skill in the art to have modified the electrophoresis apparatus of Zare ('300) to include the length range taught by Chu ('232) because as Zare ('300) explains the exposed predetermined length of the capillary defines a detection volume which receives the laser output from a 0.08 mm optical fiber and permits the collection of fluorescent signal emanating from the detection volume by a 0.6 mm optical fiber (column 3, line 64 – column 4, line 8).

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined

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application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1 – 3 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 6 of copending Application No. 10/897,099 in view of Zare et al. (US 4,675,300). Specifically, instant claim 1 is rejected over each of claims 1 and 4, instant claim 2 is rejected over each of claims 2 and 5 and instant claim 3 is rejected over each of claims 3 and 6.

Regarding instant claim 1, each of claims 1 and 4 of Application No. 10/897,099 disclose all the limitations of the capillary recited in the instant claim except for the explicit disclosure of the electrophoresis apparatus components.

Zare ('300) teaches an electrophoresis apparatus comprising a plurality of capillaries (column 7, lines 5 – 7); a voltage applier (36) applying voltage between both ends of the capillaries (column 3, lines 44 – 47); a laser light source (46) irradiating a laser (column 3, line 64 – column 4, line 3); and a

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fluorescent detector detecting a fluorescence emitted from inside of the capillaries (column 4, lines 5 – 17).

It would have been obvious to one of ordinary skill in the art to have included the capillary of Application No. 10/897,099 in the electrophoresis apparatus of Zare ('300) because it would have the benefit of improving the fluorescence detection of target species as they pass through a detection volume as taught by Zare ('300) (column 2, lines 38 – 59).

This is a provisional obviousness-type double patenting rejection.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hayashizaki et al. (US 6,560,859) discloses electrophoresis apparatus with coated capillary with exposed predetermined length.

Lougee (US 71,009), Koehn (US 3,204,634), Cahill (US 3,307,020), Williams (US 3,798,652) and Harth, III (US 6,495,268) each disclose a coated capillary or tube with a portion of coating with tapered thickness.

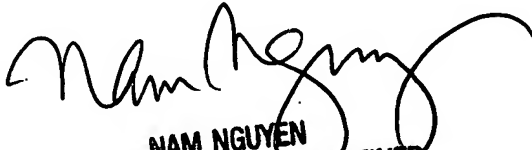
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Surekha Vathyam whose telephone number is 571-272-2682. The examiner can normally be reached on 7:30 AM to 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SV
February 8, 2007



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